

Remarks

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

Initially, applicants would like to note that on July 28, 2003, applicants filed a document entitled "Request for Reconsideration of the Denial, in part, of Applicants' Renewed Petition under 37 C.F.R. § 1.144 for review of Restriction Requirement" in response to the June 10, 2003, decision on applicants' renewed petition. In the Request for Reconsideration, applicants admitted:

For purposes of achieving growth enhancement in transgenic plants, the various claimed methods which involve expression of nucleic acid molecules encoding different hypersensitive response elicitor proteins in transgenic plants, would have been obvious over one another.

In view of the admission, applicants submit that the withdrawal of claims 40 and 42-44 is improper. Claims 40 and 42-44 should be examined in their entirety.

Moreover, applicants submit that dependent claim 51 should be rejoined with independent claim 38, because claims 38 and 51 are related as subcombination and combination, respectively. To restrict a subcombination from a combination, two-way distinctness must be demonstrated. To be distinct, it must be shown that the combination does not require the particulars of the subcombination as claimed for patentability and the subcombination can be shown to have utility either by itself or in other and different relations. See Manual of Patent Examining Procedure § 806.05(c). Applicants submit that the former cannot be shown because claim 51 depends from claim 38; hence, the combination requires the particulars of the subcombination.

For these reasons, all pending but presently withdrawn claims (i.e., claims 40, 42-44, and 51) should be examined with claims 38, 39, 41, and 46-50.

The rejection of claims 38-39, 41, and 46-50 under 35 U.S.C. § 112 (first paragraph) as lacking written descriptive support is respectfully traversed.

In view of the foregoing admission concerning the previously withdrawn subject matter, applicants submit that it is *entirely* improper to ignore the fact that the present application identifies, by nucleotide sequence, four nucleic acid molecules encoding hypersensitive response elicitor proteins derived from various bacterial plant pathogens. These nucleic acid molecules are: a first DNA molecule encoding HrpN of *Erwinia*

chrysanthemi or harpin_{Ech}, a second DNA molecule encoding HrpN of *Erwinia amylovora* or harpin_{Ea}, a third DNA molecule encoding HrpZ of *Pseudomonas syringae* or harpin_{Pss}, and a fourth DNA molecule encoding PopA1 of *Pseudomonas* (now *Ralstonia*) *solanacearum*.

These four species are recited at pages 12-21 of the present application.

As demonstrated in the response filed on September 27, 2002 (and the accompanying exhibits attached thereto), harpin_{Ea} is a representative species of the presently recited genus and results achieved with one member of the art-recognized class of hypersensitive response elicitors have proven to be similarly achieved with other members of the art-recognized class. The U.S. Patent and Trademark Office ("PTO") has not in any way contested such demonstration in the outstanding office action.

That the present application supports the claim language 'hypersensitive response elicitor polypeptide or protein' is entirely consistent with the Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, ¶1, "Written Description" Requirement, 66 Fed. Reg. 1099 (January 5, 2001) ("Written Description Guidelines"), because the four species explicitly disclosed by nucleotide sequence constitute "a representative number of species." The burden of establishing that an application lacks adequate written descriptive support falls on the PTO. *See In re Wertheim*, 541 F.2d 257, 263, 191 USPQ 90, 97 (CCPA 1976) ("[T]he PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims."). In this case, the sole assertion made by the PTO to support its conclusion is that only one hypersensitive response elicitor from *Erwinia amylovora* has been disclosed (*see* page 3 of office action). Because the "veil" (allowing the PTO to completely ignore the disclosure of three other species) has been lifted as a result of applicants' admission, the PTO has no basis of record to support the written description rejection. Absent evidence that the four disclosed species of hypersensitive response elicitors are *not* representative of the recited genus, as required by *In re Wertheim*, the PTO cannot maintain the written description rejection.

For these reasons, the rejection of claims 38-39, 41, and 46-50 under 35 U.S.C. § 112 (first paragraph) as lacking written descriptive support is improper and should be withdrawn.

The rejection of claims 38-39, 41, and 46-50 under 35 U.S.C. § 112 (first paragraph) as lacking enablement is respectfully traversed. The PTO acknowledges that the present application fully enables practicing the invention with the *hrpN* gene of *Erwinia*

amylovora (see office action at page 4), but concludes that the application does not enable practicing the claimed invention with any other hypersensitive response elicitor genes.

Applicants have previously filed, on September 27, 2002, the Declaration of Zhong-Min Wei Under 37 C.F.R. § 1.132 (“Wei Declaration”). In the Wei Declaration, Dr. Wei presented evidence that confirmed the ability of transgenic plants, transformed with nucleic acid molecules encoding hypersensitive response elicitors, to exhibit enhanced growth. In particular, Dr. Wei presented evidence of enhanced growth by transgenic *Arabidopsis* plants (Wei Declaration ¶ 7) and transgenic cotton plants (Wei Declaration ¶ 8), both expressing the *hrpN* gene of *Erwinia amylovora*. In addition, the Wei Declaration also provided evidence that topical application (to plants or plant seeds) of hypersensitive response elicitors other than HrpN, specifically HrpZ of *Pseudomonas syringae* and HreX of *Xanthomonas campestris*, achieved similar growth enhancement responses from affected plants (Wei Declaration ¶¶ 10-11). Thus, it is clear that hypersensitive response elicitors from a range of sources have the ability to enhance plant growth, regardless of whether the hypersensitive response elicitor is topically applied to plants or plant seeds or transgenically expressed. Given applicants prior demonstration (citing to Exhibits 1-13 attached to the response filed September 27, 2002), which the PTO has not contested, one of ordinary skill in the art would fully expect that results achieved with any one member of the art-recognized class of hypersensitive response elicitors (which share common biochemical characteristics and biological functions) would be predictive of success when practicing the presently claimed invention with other members of this same class.

The only basis for disregarding the above demonstration—again, the PTO has not in any way contested the propriety of applicants’ position—is that the present application “fails to teach *E. amylovora* hypersensitive response elicitor genes other than SEQ ID NO: 4” (office action at page 5). As noted above, the present application identifies by nucleotide sequence three additional hypersensitive response elicitor genes *in addition to* the *hrpN* gene of *Erwinia amylovora*. Because the only basis asserted for maintaining the enablement rejection is without support, the enablement rejection must be withdrawn given the evidence submitted via the Wei Declaration and the demonstration by applicants that HrpN of *Erwinia amylovora* is but one member of an art-recognized class that includes the other three species identified in the present application.

For these reasons, the rejection of claims 38-39, 41, and 46-50 under 35 U.S.C. § 112 (first paragraph) for lack of enablement is improper and should be withdrawn.


The rejection of claims 38, 39, 41, and 46-50 under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,174,717 to Beer et al. is respectfully traversed in view of the accompanying terminal disclaimer.

The rejection of claims 38, 39, 41, and 46-50 under the judicially created doctrine of obviousness-type double patenting over U.S. Patent No. 6,228,644 to Bogdanove et al. is respectfully traversed in view of the accompanying terminal disclaimer.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: January 14, 2004



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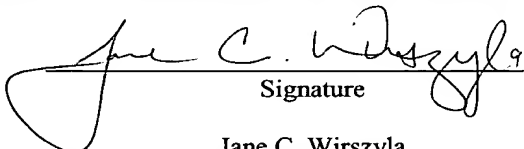
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